List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Bioinorganic Chemistry of Alzheimer's Disease. Chemical Reviews, 2012, 112, 5193-5239.	23.0	581
2	A Quantitative Scale of Oxophilicity and Thiophilicity. Inorganic Chemistry, 2016, 55, 9461-9470.	1.9	360
3	Halide, Ammonium, and Alkali Metal Ion Parameters for Modeling Aqueous Solutions. Journal of Chemical Theory and Computation, 2006, 2, 1499-1509.	2.3	355
4	Performance of density functionals for first row transition metal systems. Journal of Chemical Physics, 2007, 126, 014103.	1.2	210
5	Consistent descriptions of metal–ligand bonds and spin-crossover in inorganic chemistry. Coordination Chemistry Reviews, 2013, 257, 196-209.	9.5	172
6	How O2 Binds to Heme. Journal of Biological Chemistry, 2004, 279, 14561-14569.	1.6	170
7	Theoretical Prediction of the Coâ^C Bond Strength in Cobalamins. Journal of Physical Chemistry A, 2003, 107, 7539-7545.	1.1	168
8	Bioinorganic Chemistry Modeled with the TPSSh Density Functional. Inorganic Chemistry, 2008, 47, 10357-10365.	1.9	146
9	Theoretical Study of Spin Crossover in 30 Iron Complexes. Inorganic Chemistry, 2016, 55, 2717-2727.	1.9	139
10	Accurate Computed Enthalpies of Spin Crossover in Iron and Cobalt Complexes. Journal of Physical Chemistry A, 2009, 113, 10033-10039.	1.1	138
11	Metal Ion Enhanced Binding of AMD3100 to Asp262in the CXCR4 Receptorâ€. Biochemistry, 2003, 42, 710-717.	1.2	134
12	Alzheimer's disease: How metal ions define β-amyloid function. Coordination Chemistry Reviews, 2017, 351, 127-159.	9.5	120
13	How the Coâ^'C Bond Is Cleaved in Coenzyme B12Enzymes:Â A Theoretical Study. Journal of the American Chemical Society, 2005, 127, 9117-9128.	6.6	118
14	Alzheimer's disease due to loss of function: A new synthesis of the available data. Progress in Neurobiology, 2016, 143, 36-60.	2.8	111
15	The Dependence of Amyloidâ€Î² Dynamics on Protein Force Fields and Water Models. ChemPhysChem, 2015, 16, 3278-3289.	1.0	103
16	O-binding to heme: electronic structure and spectrum of oxyheme, studied by multiconfigurational methods. Journal of Inorganic Biochemistry, 2005, 99, 45-54.	1.5	97
17	Characterization of an Alkali- and Halide-Resistant Laccase Expressed in E. coli: CotA from Bacillus clausii. PLoS ONE, 2014, 9, e99402.	1.1	97
18	The Chemical Bond between Transition Metals and Oxygen: Electronegativity, d-Orbital Effects, and Oxophilicity as Descriptors of Metal–Oxygen Interactions. Journal of Physical Chemistry C, 2019, 123, 18432-18444.	1.5	92

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19	A structural-chemical explanation of fungal laccase activity. Scientific Reports, 2018, 8, 17285.	1.6	89
20	Accurate Stabilities of Laccase Mutants Predicted with a Modified FoldX Protocol. Journal of Chemical Information and Modeling, 2012, 52, 3028-3042.	2.5	80
21	Spin Propensities of Octahedral Complexes From Density Functional Theory. Journal of Physical Chemistry A, 2015, 119, 4041-4050.	1.1	80
22	Iron(II) and Iron(III) Spin Crossover: Toward an Optimal Density Functional. Journal of Physical Chemistry A, 2018, 122, 4208-4217.	1.1	79
23	Polarization Effects for Hydrogen-Bonded Complexes of Substituted Phenols with Water and Chloride Ion. Journal of Chemical Theory and Computation, 2007, 3, 1987-1992.	2.3	73
24	Comment on "Density functional theory is straying from the path toward the exact functional― Science, 2017, 356, 496-496.	6.0	72
25	Ten Challenges of the Amyloid Hypothesis of Alzheimer's Disease. Journal of Alzheimer's Disease, 2016, 55, 447-457.	1.2	71
26	Comparison of the Chemical Properties of Iron and Cobalt Porphyrins and Corrins. ChemBioChem, 2003, 4, 413-424.	1.3	66
27	Copper imbalance in Alzheimer's disease: Convergence of the chemistry and the clinic. Coordination Chemistry Reviews, 2019, 397, 168-187.	9.5	65
28	The axial N -base has minor influence on Co–C bond cleavage in cobalamins. Computational and Theoretical Chemistry, 2002, 585, 239-255.	1.5	64
29	Chemical Bond Energies of 3d Transition Metals Studied by Density Functional Theory. Journal of Chemical Theory and Computation, 2018, 14, 3479-3492.	2.3	64
30	Cobalamins uncovered by modern electronic structure calculations. Coordination Chemistry Reviews, 2009, 253, 769-778.	9.5	61
31	The role of axial ligands for the structure and function of chlorophylls. Journal of Biological Inorganic Chemistry, 2006, 12, 49-61.	1.1	59
32	Theoretical Investigation of Steric and Electronic Effects in Coenzyme B12Models. Organometallics, 2001, 20, 550-556.	1.1	58
33	Membrane Dynamics of Î ³ -Secretase Provides a Molecular Basis for Î ² -Amyloid Binding and Processing. ACS Chemical Neuroscience, 2017, 8, 2424-2436.	1.7	54
34	Positively Selected Sites in Cetacean Myoglobins Contribute to Protein Stability. PLoS Computational Biology, 2013, 9, e1002929.	1.5	52
35	The dynamic mechanism of presenilin-1 function: Sensitive gate dynamics and loop unplugging control protein access. Neurobiology of Disease, 2016, 89, 147-156.	2.1	52
36	Stability Mechanisms of Laccase Isoforms using a Modified FoldX Protocol Applicable to Widely Different Proteins. Journal of Chemical Theory and Computation, 2013, 9, 3210-3223.	2.3	51

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37	Conversion of Homocysteine to Methionine by Methionine Synthase: A Density Functional Study. Journal of the American Chemical Society, 2003, 125, 13970-13971.	6.6	50
38	Towards a "Golden Standard―for computing globin stability: Stability and structure sensitivity of myoglobin mutants. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 1239-1248.	1.1	50
39	The Influence of Selection for Protein Stability on dN/dS Estimations. Genome Biology and Evolution, 2014, 6, 2956-2967.	1.1	49
40	Electronic Structure of Cob(I)alamin:Â The Story of an Unusual Nucleophile. Journal of Physical Chemistry B, 2005, 109, 10505-10512.	1.2	48
41	Loss of stability and hydrophobicity of presenilin 1 mutations causing Alzheimer's disease. Journal of Neurochemistry, 2016, 137, 101-111.	2.1	47
42	Stability Mechanisms of a Thermophilic Laccase Probed by Molecular Dynamics. PLoS ONE, 2013, 8, e61985.	1.1	46
43	Heme: From quantum spin crossover to oxygen manager of life. Coordination Chemistry Reviews, 2017, 344, 363-374.	9.5	45
44	Molecular Mechanism of Alternative P450-Catalyzed Metabolism of Environmental Phenolic Endocrine-Disrupting Chemicals. Environmental Science & Technology, 2018, 52, 4422-4431.	4.6	43
45	The reaction mechanism of iron and manganese superoxide dismutases studied by theoretical calculations. Journal of Computational Chemistry, 2006, 27, 1398-1414.	1.5	42
46	Peroxo-Type Intermediates in Class I Ribonucleotide Reductase and Related Binuclear Non-Heme Iron Enzymes. Journal of the American Chemical Society, 2009, 131, 12155-12171.	6.6	41
47	Effect of Distal Interactions on O ₂ Binding to Heme. Journal of Physical Chemistry B, 2013, 117, 3755-3770.	1.2	39
48	Mechanism of Cobalamin-Mediated Reductive Dehalogenation of Chloroethylenes. ACS Catalysis, 2017, 7, 5294-5307.	5.5	38
49	Aβ42/Aβ40 Ratios of Presenilin 1 Mutations Correlate with Clinical Onset of Alzheimer's Disease. Journal of Alzheimer's Disease, 2018, 66, 939-945.	1.2	37
50	Systematic Investigation of the Data Set Dependency of Protein Stability Predictors. Journal of Chemical Information and Modeling, 2020, 60, 4772-4784.	2.5	37
51	Computational Biotransformation Profile of Emerging Phenolic Pollutants by Cytochromes P450: Phenol-Coupling Mechanism. Environmental Science & Technology, 2020, 54, 2902-2912.	4.6	37
52	Cryo-temperature effects on membrane protein structure and dynamics. Physical Chemistry Chemical Physics, 2020, 22, 5427-5438.	1.3	35
53	Halide Binding and Inhibition of Laccase Copper Clusters: The Role of Reorganization Energy. Inorganic Chemistry, 2015, 54, 476-483.	1.9	33
54	Computing Stability Effects of Mutations in Human Superoxide Dismutase 1. Journal of Physical Chemistry B, 2014, 118, 1799-1812.	1.2	32

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55	Molecular dynamics of C99-bound γ-secretase reveal two binding modes with distinct compactness, stability, and active-site retention: implications for Aβ production. Biochemical Journal, 2019, 476, 1173-1189.	1.7	32
56	Structure and Mutations of SARS-CoV-2 Spike Protein: A Focused Overview. ACS Infectious Diseases, 2022, 8, 29-58.	1.8	32
57	O ₂ Binding to Heme is Strongly Facilitated by Nearâ€Degeneracy of Electronic States. ChemPhysChem, 2013, 14, 3551-3558.	1.0	31
58	Copper Imbalance in Alzheimer's Disease and Its Link with the Amyloid Hypothesis: Towards a Combined Clinical, Chemical, and Genetic Etiology. Journal of Alzheimer's Disease, 2021, 83, 23-41.	1.2	31
59	A Model of Proteostatic Energy Cost and Its Use in Analysis of Proteome Trends and Sequence Evolution. PLoS ONE, 2014, 9, e90504.	1.1	30
60	Importance of proximal hydrogen bonds in haem proteins. Molecular Physics, 2003, 101, 2003-2018.	0.8	29
61	Co–C Dissociation of Adenosylcobalamin (Coenzyme B ₁₂): Role of Dispersion, Induction Effects, Solvent Polarity, and Relativistic and Thermal Corrections. Journal of Physical Chemistry A, 2014, 118, 7104-7117.	1.1	29
62	Setting the stage for electron transfer: Molecular basis of ABTS-binding to four laccases from Trametes versicolor at variable pH and protein oxidation state. Journal of Molecular Catalysis B: Enzymatic, 2014, 100, 68-77.	1.8	29
63	βâ€Amyloid pathogenesis: Chemical properties versus cellular levels. Alzheimer's and Dementia, 2016, 12, 184-194.	0.4	28
64	A base measure of precision for protein stability predictors: structural sensitivity. BMC Bioinformatics, 2021, 22, 88.	1.2	28
65	Erratum to "O2-binding to heme: electronic structure and spectrum of oxyheme, studied by multiconfigurational methods―[J. Inorg. Biochem. 99(1) (2004) 45–54]. Journal of Inorganic Biochemistry, 2005, 99, 978.	1.5	27
66	Computational studies of modified [Fe3S4] clusters: Why iron is optimal. Journal of Inorganic Biochemistry, 2008, 102, 87-100.	1.5	27
67	Improved Interaction Potentials for Charged Residues in Proteins. Journal of Physical Chemistry B, 2008, 112, 1820-1827.	1.2	27
68	The ground states of iron(III) porphines: Role of entropy–enthalpy compensation, Fermi correlation, dispersion, and zero-point energies. Journal of Inorganic Biochemistry, 2011, 105, 1286-1292.	1.5	26
69	The Metal Hydride Problem of Computational Chemistry: Origins and Consequences. Journal of Physical Chemistry A, 2019, 123, 2888-2900.	1.1	26
70	Metalâ^'Ligand Bonds of Second- and Third-Row d-Block Metals Characterized by Density Functional Theory. Journal of Physical Chemistry A, 2009, 113, 10133-10141.	1.1	25
71	Structure and dynamics of Î ³ -secretase with presenilin 2 compared to presenilin 1. RSC Advances, 2019, 9, 20901-20916.	1.7	24
72	Insights into membrane-bound presenilin 2 from all-atom molecular dynamics simulations. Journal of Biomolecular Structure and Dynamics, 2020, 38, 3196-3210.	2.0	24

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73	Rational Design of a New Trypanosoma rangeli Trans-Sialidase for Efficient Sialylation of Glycans. PLoS ONE, 2014, 9, e83902.	1.1	23
74	Modeling the Aggregation Propensity and Toxicity of Amyloid-Î ² Variants. Journal of Alzheimer's Disease, 2015, 47, 215-229.	1.2	23
75	Genotype-Property Patient-Phenotype Relations Suggest that Proteome Exhaustion Can Cause Amyotrophic Lateral Sclerosis. PLoS ONE, 2015, 10, e0118649.	1.1	23
76	Benchmarking Density Functionals for Chemical Bonds of Gold. Journal of Physical Chemistry A, 2017, 121, 2022-2034.	1.1	23
77	A quantitative model of human neurodegenerative diseases involving protein aggregation. Neurobiology of Aging, 2019, 80, 46-55.	1.5	23
78	Side-by-side comparison of Notch- and C83 binding to $\hat{1}^3$ -secretase in a complete membrane model at physiological temperature. RSC Advances, 2020, 10, 31215-31232.	1.7	21
79	Three Simple Properties Explain Protein Stability Change upon Mutation. Journal of Chemical Information and Modeling, 2021, 61, 1981-1988.	2.5	21
80	Comparison of chemical properties of iron, cobalt, and nickel porphyrins, corrins, and hydrocorphins. Journal of Porphyrins and Phthalocyanines, 2005, 09, 581-606.	0.4	20
81	Bridging the gap between chemistry, physiology, and evolution: Quantifying the functionality of sperm whale myoglobin mutants. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2012, 161, 9-17.	0.8	19
82	TtMCO: A highly thermostable laccase-like multicopper oxidase from the thermophilic Thermobaculum terrenum. Journal of Molecular Catalysis B: Enzymatic, 2015, 112, 59-65.	1.8	19
83	Trends in Strong Chemical Bonding in C ₂ , CN, CN [–] , CO, N ₂ , NO, NO ⁺ , and O ₂ . Journal of Physical Chemistry A, 2017, 121, 9092-9098.	1.1	19
84	Molecular Recipe for Î ³ -Secretase Modulation from Computational Analysis of 60 Active Compounds. ACS Omega, 2018, 3, 18078-18088.	1.6	19
85	Computing the Pathogenicity of Alzheimer's Disease Presenilin 1 Mutations. Journal of Chemical Information and Modeling, 2019, 59, 858-870.	2.5	19
86	Precision Biotransformation of Emerging Pollutants by Human Cytochrome P450 Using Computational–Experimental Synergy: A Case Study of Tris(1,3-dichloro-2-propyl) Phosphate. Environmental Science & Technology, 2021, 55, 14037-14050.	4.6	19
87	Energy <i>vs.</i> density on paths toward more exact density functionals. Physical Chemistry Chemical Physics, 2018, 20, 7538-7548.	1.3	18
88	A computer-simulated mechanism of familial Alzheimer's disease: Mutations enhance thermal dynamics and favor looser substrate-binding to γ-secretase. Journal of Structural Biology, 2020, 212, 107648.	1.3	18
89	The allyl radical revisited: a theoretical study of the electronic spectrum. Chemical Physics Letters, 2003, 380, 689-698.	1.2	17
90	The Pathogenic A2V Mutant Exhibits Distinct Aggregation Kinetics, Metal Site Structure, and Metal Exchange of the Cu ²⁺ –Al² Complex. Chemistry - A European Journal, 2017, 23, 13591-13595.	1.7	17

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91	Cell size effects in the molecular dynamics of the intrinsically disordered A^2 peptide. Journal of Chemical Physics, 2019, 151, 085101.	1.2	17
92	Unfolding Simulations of Holomyoglobin from Four Mammals: Identification of Intermediates and β-Sheet Formation from Partially Unfolded States. PLoS ONE, 2013, 8, e80308.	1.1	17
93	Data set and fitting dependencies when estimating protein mutant stability: Toward simple, balanced, and interpretable models. Journal of Computational Chemistry, 2022, 43, 504-518.	1.5	17
94	Computational Chemistry of Modified [MFe ₃ S ₄] and [M ₂ Fe ₂ S ₄] Clusters: Assessment of Trends in Electronic Structure and Properties. Journal of Physical Chemistry A, 2008, 112, 12829-12841.	1.1	16
95	Characterization of Sodium Stibogluconate by Online Liquid Separation Cell Technology Monitored by ICPMS and ESMS and Computational Chemistry. Analytical Chemistry, 2008, 80, 5993-6000.	3.2	16
96	Direct Correlation of Cell Toxicity to Conformational Ensembles of Genetic AÎ ² Variants. ACS Chemical Neuroscience, 2015, 6, 1990-1996.	1.7	16
97	Superoxide dismutase 1 is positively selected to minimize protein aggregation in great apes. Cellular and Molecular Life Sciences, 2017, 74, 3023-3037.	2.4	16
98	Full quantum-mechanical structure of the human protein Metallothionein-2. Journal of Inorganic Biochemistry, 2012, 107, 15-24.	1.5	15
99	Iron–sulfur clusters: Why iron?. Journal of Inorganic Biochemistry, 2006, 100, 1436-1439.	1.5	14
100	Accurate Computation of Reduction Potentials of 4Feâ^'4S Clusters Indicates a Carboxylate Shift in <i>Pyrococcus </i> i>furiosus Ferredoxin. Inorganic Chemistry, 2007, 46, 8710-8716.	1.9	14
101	The building blocks of metallothioneins: heterometallic Zn2+ and Cd2+ clusters from first-principles calculations. Dalton Transactions, 2010, 39, 9684.	1.6	14
102	Heme isomers substantially affect heme's electronic structure and function. Physical Chemistry Chemical Physics, 2017, 19, 22355-22362.	1.3	14
103	Thermochemically Consistent Free Energies of Hydration for Di- and Trivalent Metal Ions. Journal of Physical Chemistry A, 2018, 122, 7464-7471.	1.1	14
104	Semi-empirical studies of cobalamins, corrin models, and cobaloximes. The nucleotide loop does not strain the corrin ring in cobalamins. Inorganica Chimica Acta, 2001, 323, 5-15.	1.2	13
105	Molecular dynamics derived life times of active substrate binding poses explainKMof laccase mutants. RSC Advances, 2018, 8, 36915-36926.	1.7	13
106	Computational analysis of Alzheimer-causing mutations in amyloid precursor protein and presenilin 1. Archives of Biochemistry and Biophysics, 2019, 678, 108168.	1.4	13
107	Pathogenic properties of Alzheimer's β-amyloid identified from structure–property patient-phenotype correlations. Dalton Transactions, 2015, 44, 2747-2754.	1.6	12
108	Free Energies of Hydration for Metal Ions from Heats of Vaporization. Journal of Physical Chemistry A, 2019, 123, 6536-6546.	1.1	12

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109	Survival of the cheapest: how proteome cost minimization drives evolution. Quarterly Reviews of Biophysics, 2020, 53, e7.	2.4	12
110	Accuracy of theoretical catalysis from a model of iron-catalyzed ammonia synthesis. Communications Chemistry, 2018, 1, .	2.0	11
111	Chemical Causes of Metal Nobleness. ChemPhysChem, 2020, 21, 360-369.	1.0	11
112	Assessment of AlphaFold2 for Human Proteins via Residue Solvent Exposure. Journal of Chemical Information and Modeling, 2022, 62, 3391-3400.	2.5	11
113	Electron Transfer of Hydrated Transition-Metal Ions and the Electronic State of Co3+(aq). Inorganic Chemistry, 2018, 57, 7914-7924.	1.9	10
114	Computing the Pathogenicity of Wilson's Disease ATP7B Mutations: Implications for Disease Prevalence. Journal of Chemical Information and Modeling, 2019, 59, 5230-5243.	2.5	10
115	Membrane dynamics of γâ€secretase with the anterior pharynxâ€defective 1B subunit. Journal of Cellular Biochemistry, 2021, 122, 69-85.	1.2	10
116	Aerobic dive limits of seals with mutant myoglobin using combined thermochemical and physiological data. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2013, 164, 119-128.	0.8	9
117	Contribution of substrate reorganization energies of electron transfer to laccase activity. Physical Chemistry Chemical Physics, 2019, 21, 15805-15814.	1.3	9
118	Performance of Density Functional Theory for Transition Metal Oxygen Bonds. ChemPhysChem, 2019, 20, 3210-3220.	1.0	9
119	Metallothionein Zn ²⁺ - and Cu ²⁺ -clusters from first-principles calculations. Dalton Transactions, 2012, 41, 2247-2256.	1.6	8
120	Understanding familial Alzheimer's disease: The fitâ€stayâ€ŧrim mechanism of γâ€secretase. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2022, 12, e1556.	6.2	8
121	Experimentally calibrated computational chemistry of tryptophan hydroxylase: Trans influence, hydrogen-bonding, and 18-electron rule govern O2-activation. Journal of Inorganic Biochemistry, 2010, 104, 136-145.	1.5	7
122	Redox Potentials and Electronic States of Iron Porphyrin IX Adsorbed on Single Crystal Gold Electrode Surfaces. Langmuir, 2018, 34, 3610-3618.	1.6	7
123	Bioinorganic Chemistry of Zinc in Relation to the Immune System. ChemBioChem, 2022, 23, .	1.3	7
124	Identification of Structural Calcium Binding Sites in Membrane-Bound Presenilin 1 and 2. Journal of Physical Chemistry B, 2020, 124, 4697-4711.	1.2	6
125	Computational prediction and molecular mechanism of Î ³ -secretase modulators. European Journal of Pharmaceutical Sciences, 2021, 157, 105626.	1.9	6
126	Using electronegativity and hardness to test density functionals. Journal of Chemical Physics, 2020, 152, 244113.	1.2	5

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127	Tracking evolution of myoglobin stability in cetaceans using experimentally calibrated computational methods that account for generic protein relaxation. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2016, 1864, 825-834.	1.1	4
128	Common mechanism of thermostability in small α―and βâ€proteins studied by molecular dynamics. Proteins: Structure, Function and Bioinformatics, 2020, 88, 1233-1250.	1.5	4
129	Mutants of Micromonospora viridifaciens sialidase have highly variable activities on natural and non-natural substrates. Protein Engineering, Design and Selection, 2015, 28, 37-44.	1.0	3
130	ALS/FTD: Evolution, Aging, and Cellular Metabolic Exhaustion. Frontiers in Neurology, 2022, 13, .	1.1	3
131	The Electronic Determinants of Spin Crossover Described by Density Functional Theory. Challenges and Advances in Computational Chemistry and Physics, 2019, , 1-33.	0.6	2
132	Dioxygen Binding to all 3d, 4d, and 5d Transition Metals from Coupled luster Theory. ChemPhysChem, 2020, 21, 2173-2186.	1.0	2